

A REVIEW OF THE GENUS *PACTOPUS*
LECONTE (COLEOPTERA: THROSCIDAE)¹

ERIC YENSEN²

Department of Entomology, Oregon State University,
Corvallis, Oregon 97331

ABSTRACT

The genus *Pactopus* consists of a single living species, *P. horni* Leconte. *P. fuchsi* Casey is returned to synonymy. The genus and species are redescribed, and a detailed distribution is given for over 750 specimens.

INTRODUCTION

In 1868, Leconte described *Pactopus horni* as a new genus and species of Throscidae from California. In 1894, Casey described a second species, *P. fuchsi*, also from California. There has been confusion ever since concerning the validity of Casey's species. Blanchard (1917), followed by Leng (1920), considered *P. fuchsi* a synonym of *P. horni*, whereas Schenkling (1928) and Arnett (1963) listed or indicated 2 species of *Pactopus*. A review of *Pactopus* was thus undertaken.

Pactopus Leconte

Pactopus Leconte, 1868:63.

Pactopus Latreille: Blanchard, 1917:8 (*lapsus*).

TYPE SPECIES: *Pactopus horni* Leconte, type by monotypy.

Diagnosis: Antennae eleven-segmented, fusiform, with terminal 3 or 4 segments slightly enlarged; frons projecting in front of eyes; eyes large, nearly round, without an emargination or dividing sclerite; prosternal sutures deepened into deep sinuous sulci for reception of antennae, sulci extending laterally to hind angles of pronotum; metasternum with deep oblique tarsal grooves extending from posterior margin of coxae to or nearly to lateroposterior corner of metasternum; abdomen with deep grooves for reception of tarsi extending posterior to posterior margin of third visible abdominal sternite; aedeagus with median lobe longer than lateral lobes.

Discussion: The name *Pactopus* apparently comes from the Greek *pactos* meaning "solid, firm, or coagulated" (Jaeger 1966) and refers to the compact body shape.

There are currently 3 species referred to the genus, 1 living on the west coast of the United States and British Columbia, *Pactopus horni* Leconte, and 2 fossil species, *P. americanus* Wickham from the Miocene Florissant shale in Colorado (Wickham 1914), and *P. avitus* Britton from the Eocene London Clay in England (Britton 1960).

Judging from Wickham's camera lucida drawing and from Britton's photographs, the 2 fossil species are separate species rather than segments of a

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²Present address: Department of Biology, Millsaps College, Jackson, Mississippi 39210.

chronocline. They appear to be closely related to, but specifically distinct from, *P. horni*. The prosternum is wider and the tarsal grooves are less arcuate in the fossil species.

Pactopus horni Leconte

Pactopus horni Leconte, 1868:63.

Pactopus fuchsi Casey, 1894:585.

TYPES: The holotype of *Pactopus horni*, a female from "Cala." in a series with 3 other females and 2 males, is located at the Museum of Comparative Zoology, Harvard University. The holotype of *P. fuchsi*, a female from "Cal." (San Francisco and Santa Cruz counties fide Casey 1894:585), is located in the Casey collection at the U. S. National Museum, along with 2 female paratypes.

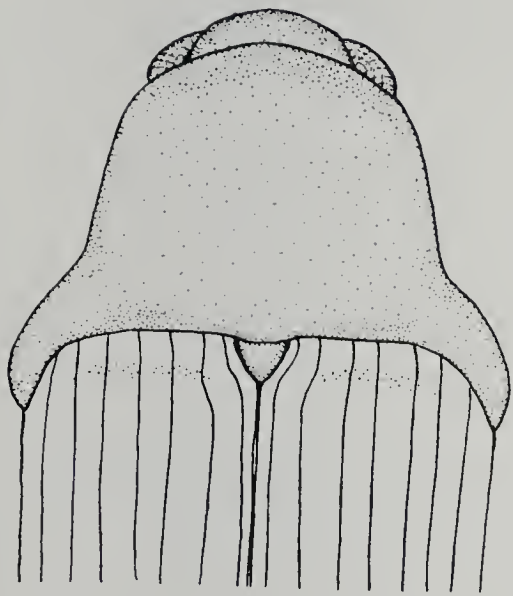
Diagnosis: First 3 abdominal sternites with arcuate grooves for reception of metatarsi; relatively narrow prosternum; prosternal carinae close together, divergent anteriorly; very distinct elytral striae. These characters separate *P. horni* from the 2 fossil species.

Description: Body oblong-oval. Color red-orange to blackish-brown. Length 2.7 to 6.0mm; width at mid-elytron 1.1 to 1.8mm. Pubescence short, appressed, gray, setae of small diameter.

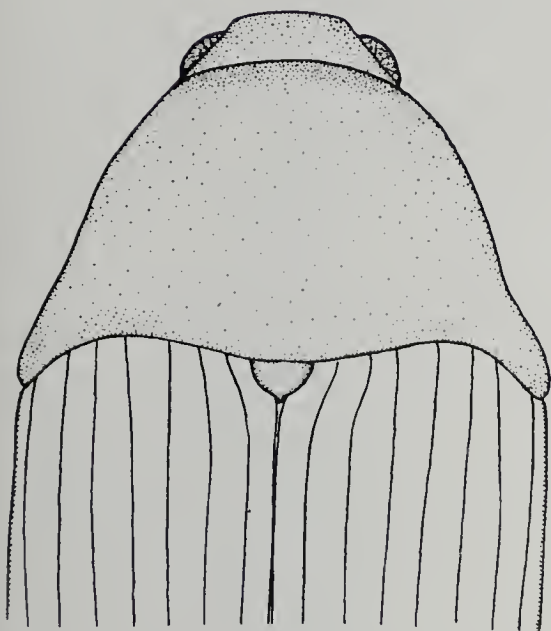
Head with frons projecting in front of eyes; frons without carinae. Eyes large, facing laterally; larger and closer together in males, separated by less than twice their own width; smaller in females, separated by more than twice their own width. Antennae fusiform with terminal 3 to 4 segments enlarged; terminal segment subacute, varying from 1 to 2 times length of tenth segment.

Pronotum sinuate laterally; sides of pronotum very sinuate in males with sides sharply narrowed and nearly parallel anteriorly; female less sinuate, sides convergent anteriorly (Fig. 1). Posterior angles "horn"-shaped, enveloping elytral humeri. Mesosternal fossa with small striker plate; fossa about as long as wide and deepening posteriorly to depth equal to width of fossa. Scutellum triangulate-oval to ogival. Elytra elongate, from 1.5 to 3 times as long as wide, longest and narrowest in males; lightly pubescent; 9 rows of punctate striae, interstrial rows with numerous punctations.

Abdomen with 5 visible sternites, each with an abdominal spiracle located in the membranous pleural region. Tarsal grooves cut obliquely through the second and third visible abdominal sternites, reaching or nearly reaching the fourth visible sternite. The first sternite divided externally by depressions for hind coxae. Aedeagus about 3 times as long as wide; lateral lobes about 0.2 length of aedeagus, with enlarged basal joint, tapering to a hooked point, capable of flexing mesodorsally but normally closely appressed to the median lobe; median lobe slightly longer than lateral lobes, tapering distally with a slight median bulge, 2.5 times longer than basal width; basal lobe elongate, about 0.8 length of entire aedeagus, divided anteriorly (basally) into 2 basal lobules, about as long as wide, hooked mesally. Female genitalia with eighth sternite spatulate, congruent with eighth tergite but with 2 long chitinous rods extending anteriorly and joining mesally. External genitalia elongate-oval, tapering posteriorly with a pair of coxites and an anterior pair of chitinous rods which are longer than the rods on eighth sternite; rods, alimentary canal, and vagina enclosed in a membranous sheath extending anteriorly about half length of rods; bursa copulatrix with 2 ring-shaped sclerites; accessory gland "u"-shaped.



1A



1B



2

Fig. 1-2 *Pactopus horni* Lec.: 1A) Prothorax of male; 1B) prothorax of female; 2) distribution.

Discussion: I have examined the types of *P. horni* Leconte and *P. fuchsi* Casey. The holotypes of both species are ordinary *P. horni* females. The *P. horni* box in the Casey collection contained 4 males, while the *P. fuchsi* box contained 3 females. Since Casey evidently had not seen Leconte's type, he must have thought the males to be *P. horni* and mistook the females for a new species. His key to the species is a good key to the sexes and was responsible for my own early recognition of sexual dimorphism in this species. The differences in prothorax shape are shown in Fig. 1.

P. horni is more variable in size and color than the other throscid species I have examined. The generic characters, especially the abdominal sulci, make recognition of *P. horni* easy.

Distribution: *Pactopus horni* is restricted to the Pacific coast of North America and is found in areas of abundant rainfall (Fig. 2). I have examined about 750 specimens from the following localities:

CANADA. BRITISH COLUMBIA: Beaverfoot Range, Bowser, Copper Mountains, Cowichan Lake, Creston, Gordon Head, Hoquiam, Kamloops, Marysville, Nanaimo, Royal Oak, Salmon Arm, Sanca, Soanich District, Summerland, Terrace, Vancouver, Vernon, Victoria, Wellington, "Wigwaw Inn", Wynndel.

UNITED STATES. CALIFORNIA: Alta Sierra, Amador County, Ben Lomond, Breckenridge, Big Sur, Bear Valley, Bull Creek (Humboldt County), Chester, Cisco, Carrville (Trinity County), Crescent City, Carmel, Deer Lodge (Humboldt County), Fort Bragg, Felton, Fresno, Green Point, Guerneville, Hillcrest, Hobart Mills, Johnsville, Lagunitas, La Honda, Lake Almanor, Lake Arrowhead, Meadow Valley, Mendocino, Mineral, Miami, Mokelumne Hill, Muir Woods (Marin County), Mill Valley, Nevada County, Norval Flats (Lassen County), Orick, Portola State Park (San Mateo County), Pacific Grove, Peavine Creek, (El Dorado County), Pebble Beach, Pine Crest, Postpile Camp (Tehama County), Quincy, Redwood Canyon (Alameda and Contra Costa Counties), Riverton, Sausalito, San Bernardino Mountains, San Simeon, Santa Cruz, Sequoia National Park, Sierraville, Sonoma County, Soquel Creek (Santa Cruz County), South Fork Kings River Canyon (Fresno County), Sugar Pine, Tallac, Taylorville, Tom's Place, Trout Meadow, (Tulare County), Truckee, Van Duzen River (Humboldt County), Weott, Westwood Hills, Whitehall, Yosemite Valley, Yuba Pass. IDAHO: Krassel, Moscow, Naples, Orofino. NEVADA: no other data. OREGON: Albany, Astoria, Bear Springs, Blodgett, Bly, Bridge Camp (Myrtlewood), Brookings, Cannon Beach, Carlton, Charleston, Chiloquin, Copper, Corvallis, Crater Lake National Park, Dayton, Dead Indian Soda Spring (Jackson County), Forest Grove, Garibaldi, Hood River, Humbug Mountain State Park (Curry County), Kane, Klamath Falls, Lake of Woods-Ashland Road (Jackson County), Lakeside, Lakeview, McCredie Spring, MacDonald State Forest (Benton County), McMinneville, Marshfield (Coos Bay), Marys Peak (Benton County), Metolius River, Mount Hood, Newberg, Newport, Oak Creek (Benton County), Odessa Creek, Olney, Pistol River (Curry County), Portland, Quartz Pass, Roseburg, Salem, Sandlake, Saint Helens, Scappoose, Springfield, Sulphur Springs (Benton County), Three-mile Creek, Upper Klamath Lake (Klamath County), Tygh Valley, Waldport, Walterville, Warner Canyon, Wheatland Ferry, Winchester Bay. WASHINGTON: Baring, Bosewallips River (Olympic National Park), Chehalis County, Chinook, Cooks, Easton, Everett, Falls City, Fort Lewis, Forks, Hoh River (Olympic National Park), Ilwaco, Lake Cushman, Monroe, Nasel River, North Bend, Paradise Park (Mount Ranier), Peshastin Creek, Ocean Park, Olympia, Port Angeles, Port Ludlow, Pullman, Quinault, Renton (Cedar River), Seattle, Soda Spring, Spokane, Thomas Lake (Stevens County).

BIOLOGY

Little is known about the life history or ecology of *Pactopus*. The adults are found on vegetation or at lights on warm evenings in spring and summer. The remainder of the time they may be found in deep leaf or needle litter by berlesing or other suitable techniques. Dr. W. F. Barr sent me 16 males and 18 females of *P. horni* which he collected as pupae under a debarked log in a heavily burned area near Naples, Idaho, 5-X-1969. The larvae of this species are unknown.

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